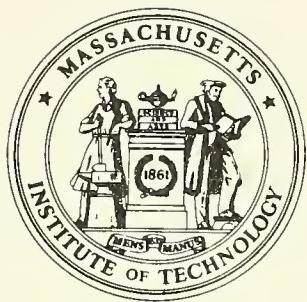


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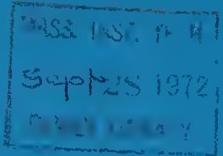


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THE BRAIN DRAIN AND INCOME TAXATION: A PROPOSAL*

by

Jagdish Bhagwati and William Dallalfar

Number 92

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THE BRAIN DRAIN AND INCOME TAXATION: A PROPOSAL

I: Welfare Loss to LDC's

The analytical literature on the brain drain from LDC's has been heavily dominated by the neoclassical mode of reasoning (cf. Grubel and Scott, 19) which essentially posits that "a man carries away his marginal product," leaving those left behind no better or worse off;* and that the only case for interfering with the "brain drain" on behalf of LDC's must be developed as an exception to this basic proposition.

"Exceptions," however, can be more significant than the "rule." And there is good reason to think that, in the kinds of categories of professional manpower where concern is expressed by LDC's, this is indeed so. Do doctors earn the "value of their social marginal product" when there are over 20,000 people per doctor?** Do gifted professors contribute only as much to LDC's as they earn?*** The "externalities" surely run high on these kinds of manpower. And, if one takes as the relevant reference point the continuing

* This is valid, of course, only for infinitesimal changes. For "large" changes, there will necessarily be a loss for the LDC's, depending on the extent of diminishing returns to professional manpower.

** Admittedly, if the doctors are not spread out to the heavily populated rural areas but congregate in the few urban areas, the social marginal product will be smaller. A country such as China, with a more egalitarian and centralised policy in the matter of locating the available medical resources, will thus do better (on our ethical preferences) than a country such as India without such policies.

*** This is not to deny that, in some cases, the "drained" manpower may still work to the benefit of the LDC of origin: as when an Indian economist at MIT researches on developmental problems; or that the gifted scientist may inspire his countrymen more effectively with greater achievements from afar than when he is working at home without the latest facilities; or that the brain is not a static concept and that it can drain away rapidly sitting in one place in an LDC in an uncongenial intellectual climate.

presence of these kinds of manpower in the LDC's as against their shift to the DC's, the LDC's indeed lose the difference between the social and the private marginal products of such manpower.

Nor do these analytical models allow for the fact that the international integration of skilled manpower tends to push up salaries in the LDC's. It is arguable that salary levels in the professional classes are set by "non-economic" factors such as the "demonstration effect" of salaries and consumption levels elsewhere, brought into sharp focus by professional migration possibilities which define aspirations and opportunity costs to potential migrants.* The costs of such escalation in the salary levels of the skilled and/or professional manpower are to be seen, not merely in the serious income inequality that it entails between those who are employed at these salary levels and those who are either unemployed or employed at levels below the per capita income level, but also in the fact that these high levels of income, given the much-lower average productivity of labour in the system, invite competition for acquiring the necessary "attributes" for qualifying for such "prizes": thus leading to the waste of real resources in the form of creation of unemployment, a la Harris-Todaro (19), and overexpansion of educational facilities.** And note that these real costs to the LDC's from

* Two other contributory factors may be noted. (i) Rene Dumont (19) has observed that, in French Africa, the native African civil servants took over the salary levels of the departing French colonial civil servants, a phenomenon that has occurred in other colonial LDC's as well; and (ii) multinational corporations, which either voluntarily hire native professionals at "international" or "near-international" salaries or are forced to do so under "indigenous quota" policies of host LDC's, also escalate the salary levels of resident native professionals: in this, they are preventing migration of such professionals but are paradoxically leading to the same effect as the migration would have on the salary levels of such manpower.

** These problems have been studied analytically by Bhagwati, Hamada and Srinivasan (1972) (1972), in forthcoming papers which study the effects of "unduly high" salary levels within models which adjust the labour market for professional manpower by unemployment which equates the expected wage in the professional market with the actual wage in the "unskilled" market.

which brain drain occurs, do not accrue from "externalities" in the sense discussed above but from the accentuation of a "distorted" salary level to which the migration of skilled manpower leads. These costs therefore pertain to far wider classes of professional manpower than the costs arising from externalities alluded to earlier.

II: Alternative Policy Intervention Rationales

These arguments therefore underline the need to have an intervention policy regarding the migration of professional manpower from the LDC's if one has LDC welfare in mind. A policy of preventing migration is, in our view, not appropriate because we feel that migration is not necessarily induced by economic reasons of self-advancement to which one may attach low weight; that, in fact, a substantial part of migration may be induced by "non-economic" reasons, including political difficulties and personal problems arising from the inevitable tension between traditional societal laws and institutions in LDC's and the aspirations and needs of the "modernised" professional classes, and that such migration ought to be permitted in a humanistic international order. At the same time, the action of countries such as the United States, aimed at reducing the size of the problem by imposing the (now-emasculated) requirement that Exchange Visitors return to an LDC for two years prior to readmission to the U. S. and making LDC-based research more attractive by grants to LDC research and university institutions, has been surely ineffective.

It would seem to us, therefore, that a tax policy which both compensates LDC's for the real losses imposed by the brain drain and partially deters the brain drain is called for. An income tax, levied on the "drained" LDC

professional manpower, would achieve precisely this.*

(1) It may be objected that such a tax is inequitable and that it should be collected from the recipient DC's general tax proceeds rather than be localised on the immigrating professionals. But one should recognise that the tax merely amounts to a fractional contribution by the immigrant from the difference between the low LDC salary level and the significantly higher DC salary level that the immigrant is permitted to enjoy when the LDC allows him to migrate to the host DC.**

(2) Another objection might be that the LDC may not have "invested" in the skills acquired by its emigrating nationals and that the LDC therefore should not get a "return" on DC investments in these migrants--as when a Ghanaian student has been on a U. S. fellowship to become a structural engineer at MIT and stays on in the United States. But this argument ignores the facts that the true opportunity cost of the brain drain to the LDC is to be defined in terms of these migrants being denied the permission to migrate and being given it, by the LDC in question; and that the grant of the permission to migrate--essentially in the form of issuing a passport valid for the necessary purpose--entails the real losses that we have discussed, while yielding the migrant a significant (and not necessarily identical) increment in his income, thus making it logical and "fair" that a tax be levied on him to compensate the LDC for its grant of permission to emigrate.

In fact, while we have provided the rationale for our tax proposal in terms of compensation to the LDC for the welfare loss imposed by emigration,

* This proposal has been advanced earlier in Bhagwati (1972).

** Only to the extent that the immigrant benefits the DC, would there be a case for the DC to tax its general population to contribute to the LDC for permitting such migration.

it is perfectly possible to think of the tax alternatively as a means of extracting, from one's own professional manpower, part of the "surplus" that is accruing to it via the act of migration: the LDC then sharing, as a reward for permitting migration to higher-salary areas, in the differential return to the migrant manpower. This latter way of looking at our tax proposal, of course, does not require that the migration (i.e. brain drain) cause a welfare loss to the LDC of origin: rather, the tax is then only an instrument for earning a return on the "export" of professional manpower.

III: Dimensions of a Tax Policy

How can an income tax on immigrants be levied? If one believes in perfect capital markets, the tax on migrants could be levied at the point of migration--whether the migrant leaves for the DC or stays on abroad, the LDC (of origin) could extract the "capitalised" value of the tax over a defined period.

However, capital markets are not perfect and the incidence of such a method of tax collection prior to migration would inevitably be inequitable among potential migrants. It would also be inefficient and inequitable insofar as the tax would have to be computed on anticipated rather than actual income during the period over which the tax is to be levied.

If, therefore, the tax is to be collected after immigration, and on the actual income earned, it makes eminent administrative sense to have it collected by the tax authority of the host DC and eventually handed over to the LDC of origin.* This raises two questions: (i) do the constitutions of

*The collection of the tax by the host DC is more convenient and less costly administratively and more efficient than if the LDC's tried to collect the tax directly themselves. LDC's are inefficient revenue-gatherers even on their home ground and besides their ability to collect a tax of the kind we propose would, even in ideal circumstances, cease once the migrant changed his citizenship.

the DC's allow taxes to be collected on behalf of foreign governments; and
(ii) should the revenue transfer be bilateral or under international auspices?

On the former question, clearly the constitutions and/or the unwritten traditions of DC's, are likely to raise some difficulties. But there is surely nothing here that is beyond the possibility of change.

We think further that the change would be easier if the tax were collected under U. N. auspices, to be handed over to a special UNDP account, for example, to be then delivered to the LDC of origin. To minimise the force of the objection that the tax revenue could then wind up with a "hostile" or a "corrupt and dictatorial" LDC regime (e.g. Haiti and South Vietnam), it would be valuable to have a possible vetoing of the allocation of such revenue to specified LDC's but, in that event, for the revenue arising from the migration of these "vetoed" LDC's to be nonetheless collected and paid into the general UNDP account for distribution as developmental aid on general criteria.

The mechanics of such tax collection could involve an additional tax form that would be filled in by professional immigrants, where they would specify the year of immigration, the net taxable income and the tax payment that would follow on "UN account."

How long should an immigrant continue paying such a tax? In principle, it could be over a working lifetime--for that is how long the externalities could have operated; it could even be longer if the "distorting" effects that we discussed were the source of the loss caused to the LDC's or if one were thinking of the tax as a means of extracting a share of the migrant's improved income, made possible by the permission to migrate. In practice, however, it seems unlikely that the host LDC's could be persuaded, in an

DC's

imperfect world, to agree to tax immigrants in this fashion for much longer after immigration gives way to citizenship. To avoid a strong incentive to change citizenship and thus choke off the possibility of immigrants retaining their LDC nationality and probably returning home, it would seem most useful however to have the tax defined on "immigration" rather than on "immigration until change of citizenship."

In the United States, the period of immigration prior to which citizenship applications cannot be filed is five years. An acceptable time limit for the duration of the tax therefore could be ten years of migration.* (Since we have reliable data on professional migration into the U. S. only for 1962-1969, we are constrained to make estimates of the tax collection on the basis of an 8-year duration, as it would be in 1969.) The tax rate could be progressive or proportional. (In the exercise that follows, we use a uniform tax rate of 10 percent.)

IV: Brain Drain into the United States and Income Taxation:

Quantitative Estimates

It is of interest to see what numbers emerge, if we make "realistic" estimates, using actual immigrant numbers and, what looks like, a feasible tax rate. In the following exercise, we use U. S. immigration statistics over 1962-1969 to arrive at the stock of 1969 immigrants by different professional classes. We then estimate the age distribution of these immigrants,

* If we were defining the tax collection on a migrant to be equal to the loss imposed on the LDC by his migration, the tax period would be a function of the tax rate, the rate of discount in the LDC and the time profile of the loss to the LDC. Rather than be "fancifully rigorous" in this way, we are working with "practical" numbers in this paper.

the median incomes in these age-groups in the U. S., and then arrive at the estimated gross (earned) incomes of these immigrants. Next, we compute the corresponding adjusted taxable incomes, multiply these into a 10 percent tax rate and arrive at the estimated 1969 tax collection figure of over \$62 million in the United States: a sum that is over a tenth of the net aid flow from the United States in 1971.

Table 1 presents the available data on the immigration, on U. S. Preference visa, which relates to the immigration of professional manpower qua this category, of persons from different LDC's during 1962 to 1969. Note that these figures relate to gross immigration and do not allow for any possible reverse flow of earlier or the same immigrants.* The data are further classified by four major categories: (i) physicians, dentists and surgeons; (ii) natural scientists; (iii) social scientists; and (iv) engineers.

To arrive at a detailed age distribution of the professional-immigrant population, we had to work with Table 2, which gives the age distribution of the entire (professional and non-professional) immigrant population by 5-year age-groups. We decided (in light of the available 1967-68 distribution of professional immigrants by more aggregated age-groups) that the professional immigrant distribution was likely to be closer to the male distribution of the entire immigrant population, and possibly closer to the distribution therein of the 20-50 age group. We therefore took the age distribution of the entire male immigrant population during 1962-1969 in the 20-50 age group, arriving at the following distribution: 21.6%, 26.6%, 20.3%, 14.6%, 10.8% and 6.6% in

* Note also that the LDC-of-origin classification relates to the last country of residence, rather than to the first. This means that LDC emigres who moves into the U. S. via residence in a DC are omitted.

the age-groups: 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49, respectively.*

For physicians and surgeons, we used the more aggregated age-group distribution (under 30, 30-44, and over 44 only) for 1968 as the income data into which these were to be multiplied, were available only for these aggregated age-groups anyway.

We next estimated the median incomes of the different professional groups by these age-groups, in 1966, assuming that the immigrants would be earning the median incomes. It is possible that the immigrants earn lower than median incomes; but we would hold that this view reflects experience with non-professional migration and it is entirely possible that the professional immigrant is in a higher-than-median-income position if the more-talented and trained LDC professionals tend to migrate.** Tables 3-5 give the estimated median salaries in the relevant age-groups for the different professional groups we have distinguished.

We next estimate the after-U. S. tax salaries in these classes by assuming that the 1966 observed tax rate in each income group, calculated in Table 6 as the ratio of income tax collected on adjusted gross income in individual income tax returns, should be applied to these estimated professional immigrant salary earnings. Note that our estimate of the resulting personal after-tax income is an underestimate because we have made no adjustments for the "unearned" income that would accrue as the immigrants save and invest, or for the returns that they may be earning in the U. S. on such

* In 1965, the Immigration laws changed and professionals were allowed a special preference. It is therefore conceivable that the relevant distribution which we should use changed in 1965; however, in the absence of any further information, we have decided to treat the effect of this change as of the second order of smalls.

** One exception, however, is certain to be physicians and surgeons where immigrants are subject to restricted entry and their incomes are likely to be lagging behind.

wealth as they may be able to bring away with them, despite exchange controls in LDC's. Table 7 gives the resulting estimates of median after-U.S.-tax incomes for professional immigrants during 1962-1969 in the United States; and Table 8 converts these into estimated total earnings of these immigrants.

By applying a 10 percent tax rate to these after-U.S.-tax incomes, we then get in Table 9 the corresponding estimates of the revenue that would be raised in each group and the total figure of over \$62 million as the sum that would be gathered by our proposed tax in 1969.

Recall that this figure is an overestimate insofar as our immigration figures are gross rather than net of reverse outflow back to the LDC's and some immigrant incomes, especially among the medical groups, are almost certainly likely to be below our assumed median incomes. On the other hand, the figure is on balance certain to be an underestimate because (1) we have used (the available) 1966 incomes and not (the desired) 1969 incomes which are clearly higher at least by the inflationary factor; (2) we have been able to use only the years 1962-1969 instead of the 10-year period we wished to study as defining an appropriate period over which our tax might be levied; (3) our income estimates allow only for earned income; (4) the LDC immigrants are classified only by the last country of residence and hence miss out the LDC immigrants who come via residence in another DC--as with Indian doctors coming to the United States after residence in the United Kingdom; and (5) we have applied the tax rates to after-U.S.-tax incomes but could well have applied them to taxable income itself.

Note finally that our figure, substantial as it is, refers only to the United States. If the proposal were adopted by Canada, United Kingdom, and France, which experience significant immigrations of professional LDC manpower--

Canada taking the spillover from the U. S., and the U. K. and France taking in people from the ex-colonies--the result could well be to raise an annual sum of nearly \$150 million.

And, if the DC's could be persuaded to contribute a "matching" grant, on the broad supposition that the inflow of skilled manpower generally helps them earn externalities at their research institutions, laboratories, etc., we could have a total flow of \$300 million to LDC's in general on this account alone.

Table 1

Immigration of Professional Manpower from LDC's
into the United States, by major categories: 1962-1969

Country of Last Residence \ Category	Physicians, Dentists, and Surgeons	Natural Scientists	Social Scientists	Engineers
Europe	562	52	27	429
Turkey (includes Asia)	562	52	27	429
Asia	5739	4151	945	13,004
Burma	58	25	7	92
China (and Taiwan)	180	967	220	2509
Hong Kong	208	288	39	731
India	414	1022	232	4236
Indonesia	50	24	10	70
Iran	534	148	32	598
Iraq	47	66	8	167
Israel	267	196	73	609
Jordan	28	49	13	117
Korea	371	313	135	512
Lebanon	181	95	23	278
Malaysia	35	41	5	42
Pakistan	70	83	13	237
Philippines	3092	726	91	2372
Syrian Arab Republic	45	30	8	130
Thailand	67	18	9	79
Vietnam	7	12	11	45
(Other Asia)	85	58	16	180
North America	3603	1161	329	2937
Mexico	706	225	74	431
Dominican Republic	394	97	20	192
Haiti	232	42	16	137
Costa Rica	55	37	6	69

Table 1

Country of Last Residence \ Category	Physicians, Dentists, and Surgeons	Natural Scientists	Social Scientists	Engineers
El Salvador	49	35	4	27
Guatemala	46	15	8	48
Honduras	50	20	4	46
Nicaragua	43	5	1	32
Panama	32	11	5	54
Other North Central America (West Indies)	1996	674	191	1901
South America	3032	875	324	2522
Argentina	952	257	61	652
Bolivia	159	81	10	74
Brazil	241	131	44	323
Chile	91	52	25	182
Colombia	874	177	95	596
Ecuador	195	59	20	122
Paraguay	43	8	2	13
Peru	250	41	23	207
Uruguay	32	9	1	40
Venezuela	166	85	34	266
Other South America	29	25	9	47
Africa	431	341	76	895
Algeria	6	2	1	10
Ethiopia	15	4	3	12
Ghana	17	10	2	28
Kenya	10	8	4	38
Morocco	14	4	2	18
Nigeria	15	20	6	64
Tunisia	13	6	2	4
U.A.R. (Egypt)	247	240	46	570
Other Africa	94	47	10	151

Table 1

Notes:

From the above sources we added the figures for the immigration of scientists, engineers, and physicians for fiscal years 1962-1969.

Note that the data is for immigration from countries of last residence (one year). Thus the immigrants from LDC's who moved to DC's before immigrating to the United States are not included in these sums.

The tables also measure gross immigration, and there are no figures on people who took out immigration visas but later returned home.

Sources:

1. The Brain Drain into the United States of Scientists, Engineers, and Physicians: A Staff Study for the Research and Technical Programs Subcommittee of the Committee on Government Operations, Washington, D. C., 1967. Appendix A, Tables I-V, pp. 17-77.
2. The Brain Drain of Scientists, Engineers, and Physicians from the Developing Countries into the United States. Hearing before a Subcommittee on Government Operations, House of Representatives, Ninetieth Congress, Second Session. Washington, D. C., 1968. Appendix, Table I, pp. 96-108.
3. Annual Indicator of Immigration to the United States of Aliens in Professional and Related Occupations, Fiscal Year 1968. Department of Justice, Immigration and Naturalization Service, June 1969. Chart 3, pp. 4-28.
4. Annual Indicator of Immigration to the United States of Aliens in Professional and Related Occupations, Fiscal Year 1969. Department of Justice, Immigration and Naturalization Service, June 1970. Chart 3, pp. 4-27.

Table 2

Immigrants Admitted into U. S., by Sex and Age:Years Ended June 30, 1960-1969

Sex and age	1960-1969	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Number admitted ...	3,213,749	265,398	271,344	283,763	306,260	292,248	296,697	323,040	361,972	454,448	358,579
Under 5 years	286,020	24,098	26,204	25,494	28,991	28,394	27,674	30,750	30,949	32,587	30,879
5- 9 years	250,006	17,523	18,924	19,076	21,621	21,362	22,146	28,562	31,605	36,919	32,268
10-14 years	220,460	15,386	16,434	16,544	18,006	17,147	18,642	25,034	29,076	35,039	29,152
15 years	45,143	2,888	2,982	3,417	3,892	3,541	3,969	5,369	5,968	7,249	5,868
16-17 years	110,241	8,255	8,452	8,835	10,125	10,191	10,704	12,544	12,912	15,575	12,648
18-19 years	163,204	14,847	14,996	15,363	17,518	16,987	17,269	16,647	15,887	18,682	15,008
20-24 years	513,453	47,674	47,984	51,487	55,935	54,923	57,000	47,853	45,691	58,472	46,434
25-29 years	454,173	39,543	39,558	42,733	45,321	42,798	42,874	43,239	47,613	60,548	49,946
30-34 years	323,702	27,748	27,274	29,421	31,669	28,597	27,545	30,497	36,795	45,886	38,270
35-39 years	234,771	19,958	19,873	20,973	21,924	19,455	19,227	22,614	27,589	35,467	27,691
40-44 years	167,103	12,059	12,744	13,652	15,014	13,870	14,033	16,132	20,947	27,968	20,684
45-49 years	126,092	11,310	11,082	10,905	10,815	9,611	9,641	11,118	14,850	21,416	15,344
50-54 years	103,341	8,395	8,611	8,808	9,005	8,678	8,735	10,249	13,052	17,208	10,600
55-59 years	82,321	6,256	6,151	6,600	6,458	6,402	6,626	8,354	10,883	15,148	9,443
60-64 years	57,805	4,316	4,240	4,617	4,552	4,496	4,538	5,899	7,759	11,081	6,307
65-69 years	37,139	2,752	2,867	2,924	2,746	2,856	2,898	3,879	5,025	7,084	4,108
70-74 years	20,865	1,359	1,729	1,577	1,499	1,677	1,793	2,327	2,869	4,008	2,027
75-79 years	11,123	680	834	842	780	805	865	1,186	1,526	2,450	1,155
80 years and over	6,666	321	394	468	382	445	518	763	971	1,659	745
Not reported	121	30	11	27	7	13	-	24	5	2	2
Males	1,427,308	116,687	121,380	131,575	139,297	126,214	127,171	141,456	158,324	199,732	165,472
Under 5 years	145,610	12,299	13,203	13,126	14,882	14,539	14,112	15,627	15,695	16,478	15,649
5- 9 years	126,480	8,570	9,604	9,735	10,876	10,724	11,268	14,447	16,210	18,668	16,378
10-14 years	111,397	7,731	8,295	8,313	8,945	8,691	9,466	12,778	14,801	17,767	14,610
15 years	22,997	1,493	1,446	1,683	1,919	1,717	2,021	2,805	3,179	3,712	3,022
16-17 years	50,843	3,565	3,537	3,888	4,570	4,609	4,867	6,108	6,179	7,312	6,208
18-19 years	55,410	4,879	5,171	5,380	6,016	5,679	5,755	5,445	5,093	6,419	5,573
20-24 years	170,601	15,836	16,618	19,541	20,199	18,042	18,938	15,086	12,685	17,785	15,871
25-29 years	206,201	17,788	18,349	21,288	21,542	18,956	18,753	19,033	20,593	26,775	23,124
30-34 years	155,706	12,919	13,063	15,146	15,981	13,284	12,578	14,181	17,424	21,979	19,151
35-39 years	113,020	9,969	9,802	10,877	11,028	8,924	8,660	10,561	13,012	16,352	13,835
40-44 years	78,455	5,827	6,247	6,804	7,511	6,469	6,251	7,357	9,370	12,599	9,970
45-49 years	57,651	5,369	5,326	5,111	5,154	4,267	4,105	4,907	6,550	9,511	7,351
50-54 years	64,469	3,762	3,865	3,810	4,021	3,619	3,517	4,225	5,572	7,319	4,759
55-59 years	34,822	2,646	2,652	2,715	2,700	2,596	2,687	3,470	4,650	6,504	4,202
60-64 years	23,914	1,801	1,756	1,862	1,814	1,875	1,806	2,369	3,251	4,764	2,616
65-69 years	15,201	1,187	1,218	1,151	1,099	1,094	1,159	1,507	2,092	2,949	1,745
70-74 years	8,010	592	732	580	576	655	687	855	1,078	1,497	758
75-79 years	4,078	294	322	343	313	303	328	415	547	832	381
80 years and over	2,388	146	168	164	144	167	213	270	339	509	268
Not reported	55	14	6	8	7	4	-	10	4	1	1
Females	1,786,441	148,711	149,964	152,188	166,963	166,034	169,526	181,584	203,648	254,716	193,107
Under 5 years	140,410	11,799	13,001	12,368	14,109	13,855	13,562	15,123	15,254	16,109	15,230
5- 9 years	123,526	8,953	9,320	9,341	10,745	10,638	10,878	14,115	15,395	18,251	15,890
10-14 years	109,063	7,655	8,139	8,231	9,061	8,456	9,176	12,256	14,275	17,272	14,542
15 years	22,146	1,395	1,536	1,734	1,973	1,824	1,948	2,564	2,789	3,537	2,846
16-17 years	59,398	4,690	4,915	4,947	5,555	5,582	5,837	6,436	6,733	8,263	6,440
18-19 years	107,794	9,968	9,825	9,983	11,502	11,308	11,514	11,202	10,794	12,263	9,435
20-24 years	342,852	31,838	31,366	31,946	35,736	36,881	38,062	32,767	33,006	40,687	30,563
25-29 years	247,972	21,755	21,209	21,445	23,779	23,842	24,121	24,206	27,020	33,773	26,822
30-34 years	167,996	14,829	14,211	14,275	15,688	15,313	14,967	16,316	19,371	23,907	19,119
35-39 years	121,751	9,989	10,071	10,096	10,896	10,531	10,567	12,053	14,577	19,115	13,856
40-44 years	88,648	6,232	6,497	6,798	7,503	7,401	7,782	8,775	11,577	15,369	10,714
45-49 years	68,441	5,941	5,756	5,794	5,661	5,344	5,536	6,211	8,300	11,905	7,993
50-54 years	58,872	4,633	4,746	4,998	4,984	5,059	5,218	6,024	7,480	9,889	5,841
55-59 years	47,499	3,610	3,499	3,885	3,758	3,806	3,939	4,884	6,233	8,644	5,241
60-64 years	33,891	2,515	2,484	2,755	2,738	2,621	2,732	3,530	4,508	6,317	3,691
65-69 years	21,938	1,565	1,649	1,773	1,647	1,762	1,739	2,372	2,933	4,135	2,363
70-74 years	12,855	767	997	997	923	1,022	1,106	1,472	1,791	2,511	1,269
75-79 years	7,045	386	512	499	467	502	537	771	979	1,618	774
80 years and over	4,278	175	226	304	238	278	305	493	632	1,150	477
Not reported	66	16	5	19	-	9	-	14	1	1	1

Table 3

Median Annual Salaries (\$) for Social Scientists: 1966

Field	Age							
	24 and under	25-29	30-34	35-39	40-44	45-49	50-54	55-59
Psychology	7,100	8,300	9,900	11,400	12,400	13,000	13,000	12,600
Statistics	--	9,500	11,000	13,000	13,800	15,000	15,700	15,200
Economics	7,500	9,200	10,500	12,500	14,600	16,000	16,500	17,000
Sociology	--	8,600	9,500	10,500	11,700	12,100	13,300	13,200
Anthropology	--	--	8,800	10,000	12,000	14,000	13,400	14,500
Median Overall*	7,100	8,600	9,900	11,400	12,400	14,000	13,400	14,500

Note: No medians were computed for groups with less than 25 observations. For groups with even numbers of observations, the N/2nd salary from the lowest was used as the median (in subsequent tables as well).

Source: Reviews of Data on Science Resources, NSF 66-34, #11, December 1966, Table 8, p. 8.

Table 4
Median Annual Salaries (\$) for Engineers,
Physicians, and Surgeons: 1966

Field \ Age	24 and under	25-29	30-34	35-39	40-44	45-49	50-54	55-59
Engineering	8,500	10,300	12,050	13,750	15,050	15,650	15,450	14,850
Physicians, Surgeons, and Dentists		28,400		34,800			28,000	

Notes: The income-age distribution of engineers and doctors was calculated from data on salary-years, taking the distribution after receiving the B. S. for engineers, and the distribution for the earnings-years in practice for physicians. We assumed that engineers receive their B.S. at age 22 and doctors begin practice at age 27. We had no data on dentists' earnings but treated them as physicians and surgeons in the subsequent tables, thus overstating their earnings.

Sources:

1. Professional Income of Engineers, 1966-1967, Engineering Manpower Commission of Engineers Joint Councils, June 1967, p. 11.
2. "Net Earnings Hit an All Time Peak," Medical Economics, December 11, 1967, p. 71.

Table 5

Median Annual Salaries (\$) for Natural Scientists: 1966

Field \ Age	24 and under	25-29	30-34	35-39	40-44	45-49	50-54	55-59
Chemistry	7,300	8,500	10,300	12,100	13,500	14,700	15,000	15,000
Physics	7,500	9,000	11,100	13,800	15,600	16,500	16,600	15,700
Mathematics	8,000	8,500	11,500	13,500	15,000	15,000	14,600	14,300
Agricultural Sciences	6,300	6,900	8,300	9,800	10,500	12,000	12,500	13,800
Biological Sciences	5,600	7,200	9,500	11,500	13,400	14,500	15,000	15,600
Earth Sciences	7,000	8,100	9,500	11,000	12,500	13,500	14,300	14,300
Median Overall*	7,000	8,100	9,500	11,500	13,400	14,500	14,600	14,300

Note: In groups with an even number of observations, we used the $N/2^{\text{nd}}$ vation after the lowest salary as the median. This gives a downward bias to our numbers.

Source: Reviews of Data on Science Resources, NSF 66-34, #11, December 1966, Table 8, p. 8.

Table 6

Estimated U. S. Income Tax Rates as Percent of Adjusted Gross Income

Adjusted Gross Income Class (\$)	Estimates Tax Rate as Percent of Adjusted Gross Income
Under 1,000	0.84
1,000-1,999	4.87
2,000-2,999	7.00
3,000-3,999	7.59
4,000-4,999	8.19
5,000-5,999	8.48
6,000-6,999	8.94
7,000-7,999	9.25
8,000-8,999	9.80
9,000-9,999	10.28
10,000-14,999	11.75
15,000-19,999	14.01
20,000-49,000	18.64

Source: Statistics of Income 1966: Individual Income Tax Returns,
 U. S. Treasury Department, Internal Revenue Service, Table 42,
 p. 93.

Table 7

Estimated After-U. S. Tax Incomes (\$) of
Professional Immigrants: 1966

Field \ Age	24 and under	25-29	30-34	35-39	40-44	45-49	50-54	55-59
Social Scientists	6,400	7,800	8,900	10,100	10,900	12,400	11,800	12,800
Natural Scientists	6,400	7,300	8,500	10,100	11,800	12,800	12,900	12,600
Engineers	7,700	9,100	10,650	12,150	12,950	13,450	13,300	13,100
Physicians, Surgeons, and Dentists		23,100		28,300			22,800	

Source: Calculated from Tables 3-6.

Table 8
Total After-U. S. Tax Income (\$) of Professional Immigrants from LDC's: 1962-1969

Country of Last Residence	Category	Engineers	Social Scientists	Natural Scientists	Physicians, Surgeons, and Dentists	Total
Europe		4,421,300	235,800	449,500	14,986,800	20,093,400
Turkey (includes Asia)		4,421,300	235,800	449,500	14,986,800	20,093,400
Asia		134,019,200	8,253,700	35,965,600	53,041,300	331,279,800
Burma		948,200	61,100	216,100	1,546,700	2,772,100
China (and Taiwan)		25,857,800	1,921,500	8,358,300	4,800,000	40,937,600
Hong Kong		7,533,700	340,600	2,489,300	5,546,700	15,910,300
India		43,656,200	2,026,300	8,833,700	11,040,100	65,556,300
Indonesia		721,400	87,300	207,400	1,333,300	2,349,400
Iran		6,163,000	279,500	1,279,200	14,240,100	21,961,800
Iraq		1,721,100	69,900	570,500	1,253,300	3,614,800
Israel		6,276,400	637,600	1,694,100	7,120,100	15,728,200
Jordan		1,205,800	113,500	423,500	746,700	2,489,500
Korea		5,276,700	1,179,100	2,705,400	9,893,400	19,054,600
Lebanon		2,865,100	200,900	821,100	4,826,700	8,713,800
Malaysia		432,900	43,700	354,400	933,300	1,764,300
Pakistan		2,442,500	113,500	717,400	1,866,700	5,140,100
Philippines		24,445,800	794,800	6,275,200	82,454,100	113,969,900
Syrian Arabian Republic		1,339,800	69,900	259,300	1,200,000	2,869,000
Thailand		814,200	78,600	155,600	1,786,700	2,835,100

Table 8

Country of Last Residence	Category	Engineers	Social Scientists	Natural Scientists	Physicians, Surgeons, and Dentists	Total
Vietnam		463,800	96,100	103,700	186,700	850,300
Other Asia		1,855,100	139,700	501,300	2,266,700	4,762,800
North America		30,268,600	2,873,500	10,035,100	96,080,800	139,258,300
Mexico		4,441,900	646,300	1,944,800	18,826,800	25,859,800
Dominican Republic		1,978,700	174,700	838,400	10,506,800	13,498,600
Haiti		1,411,900	139,800	363,000	6,186,700	8,101,400
Costa Rica		711,100	52,400	319,800	1,466,700	2,550,000
El Salvador		278,300	35,000	302,500	1,306,700	1,922,500
Guatemala		494,700	69,900	129,700	1,226,700	1,921,000
Honduras		474,100	85,000	172,900	1,333,300	2,015,300
Nicaragua		329,800	8,800	43,200	1,146,700	1,528,500
Panama		556,500	43,700	95,100	853,300	1,548,600
Other North Central America (West Indies)		19,591,600	1,668,200	5,825,700	53,227,100	80,312,600
South America		25,991,600	2,829,800	7,563,100	80,854,000	117,238,500
Argentina		6,719,500	532,800	2,221,400	25,386,900	34,860,600
Bolivia		762,600	87,300	267,900	4,240,000	5,357,800
Brazil		3,328,800	384,300	1,132,300	6,426,700	11,272,100
Chile		1,875,700	218,400	449,500	2,426,700	4,970,300
Colombia		6,142,400	829,700	1,529,900	23,306,900	31,808,900
Ecuador		1,257,300	174,700	510,000	5,200,000	7,142,000
Paraguay		134,000	17,500	69,000	1,146,700	1,367,300
Peru		2,133,300	200,900	254,400	6,666,700	9,355,300

Table 8

Country of Last Residence	Category	Engineers	Social Scientists	Natural Scientists	Physicians, Surgeons, and Dentists	Total
Uruguay		412,200	8,800	77,800	853,300	1,352,100
Venezuela		2,741,400	297,000	734,700	4,426,700	8,199,800
Other South America		484,400	78,600	216,100	773,300	1,552,400
Africa		9,223,800	663,800	2,947,400	11,493,400	24,328,400
Algeria		103,100	8,800	17,300	160,000	289,200
Ethiopia		123,700	26,200	34,600	400,000	584,500
Ghana		288,600	17,500	86,400	453,300	845,800
Kenya		391,600	34,900	69,100	266,700	762,300
Morocco		185,500	17,500	34,600	373,300	610,900
Nigeria		659,600	52,400	172,900	400,000	1,284,900
Tunisia		41,200	17,500	51,900	346,700	457,300
U.A.R. (Egypt)		5,874,400	401,800	2,074,400	6,586,700	14,937,300
Other Africa		1,556,200	87,300	406,200	2,506,700	4,556,400

Note: The weighted median incomes of these groups are \$10,306; \$8,734; \$8,643.5; and \$26,666.9 respectively.
 Clearly the first three figures should be underestimates of what the average immigrant in the respective class earns.

Source: Calculated from Tables 1 and 7.

Table 9

Estimated Revenue From a 10 Percent Tax on After-U. S. Tax Income
of Professional LDC Immigrants to the United States

Country of Last Residence	\$
Europe	2,009,300
Turkey (includes Asia)	2,009,300
Asia	33,128,000
Burma	277,200
China (and Taiwan)	4,093,800
Hong Kong	1,591,000
India	6,555,600
Indonesia	3,234,900
Iran	2,196,200
Iraq	361,500
Israel	1,572,800
Jordan	249,000
Korea	1,905,500
Lebanon	871,400
Malaysia	176,400
Pakistan	514,000
Philippines	11,397,000
Syrian Arab Republic	286,900
Thailand	283,500
Vietnam	85,000
Other Asia	476,300
North America	13,925,800
Mexico	2,586,000
Dominican Republic	1,349,900
Haiti	810,100
Costa Rica	255,000
El Salvador	192,300
Guatemala	192,100

Table 9

Country of Last Residence	\$
Honduras	201,500
Nicaragua	152,900
Panama	154,900
Other North Central America (West Indies)	8,031,300
South America	11,723,900
Argentina	3,486,100
Bolivia	535,800
Brazil	1,127,200
Chile	497,000
Colombia	3,180,900
Ecuador	714,200
Paraguay	136,700
Peru	935,500
Uruguay	135,200
Venezuela	820,000
Other South America	155,200
Africa	2,432,800
Algeria	28,900
Ethiopia	58,500
Ghana	84,600
Kenya	76,200
Morocco	61,100
Nigeria	128,500
Tunisia	45,700
U.A.R. (Egypt)	1,493,700
Other Africa	455,600
Total	63,219,800

Source: Calculated from Table 8.

Postscript

Since we completed this paper, the Soviet Union (August 1972) has announced the imposition of a tax on emigrants, scaling it up by the level of educational attainment. The fact that the incidence of this tax is largely on the Soviet Jewish citizens who wish to emigrate to Israel--and who paradoxically represent both an underprivileged group traditionally within Russia and an overprivileged group in being practically the only group allowed to emigrate at all--has provoked strong reactions from concerned Jewish organizations (as also from the United States politicians in an election year).

It is worth setting out here therefore the critical differences between the Soviet tax and our proposal and refuting some of the propagandistic points made against emigration taxes in general in the heat of the mainly-Western debate over the Soviet tax.

(1) The Soviet Union has justified the tax as compensation for the Soviet investment in the education of the emigrants. We conceive of our tax rather as compensation for the loss imposed by the emigrant on those left behind, or alternatively as a method of earning, for a poor country, a share in the improved income accruing to the emigré.

(2) The Soviet tax is levied at the point of departure and, unless paid by recourse to foreign sympathisers, is highly likely to be prohibitive and, at best, to be discriminatory between those who cannot raise the large sums specified and the lucky few who can. Our tax is, by contrast, related to the income differential actually accruing to the emigré, after the act of emigration, and thus avoids these undesirable features of the Soviet tax. [Of course, in fairness, we should note that it is extremely improbable that

the features of our tax proposal could have been successfully negotiated by the Soviet Union with the Western world.]

(3) It has been alleged that a tax on emigration is a violation of fundamental human rights. This is a fundamentally agreeable position in an ideal world order. But note that this position entails that impediments to immigration are also violations of the fundamental human right to be located where one wishes to be; and characteristically, the stiffest immigration restrictions, frequently of a political and racial nature, are typically practiced by the very same countries and groups which uphold the "fundamental right to emigrate." Morality here tends to reflect self-interest somewhat excessively! In a world composed of nation states, where immigration policies are typically devised to reflect national advantage rather than notions of utopian world order, it surely makes sense for countries to seek suitable restrictions on emigration as well, in their own interest. A tax, of the kind we have proposed, seeks to combine in a suitable way the pursuit of this national self-interest in the poor countries, consistent with maintaining open the possibility of emigration as a value in itself.

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